

NEW RECORDS OF *CAREX* IN MINNESOTA

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In an earlier paper (Wheeler, 1979), I reported three species of *Carex* previously unknown from Minnesota. The present paper deals with four additional *Carex* taxa which previously had not been known from the state. Unless otherwise indicated, all collection numbers cited at the end of this report are my own. All specimens cited are deposited in the University of Minnesota Herbarium (MIN).

Carex hitchcockiana Dewey has been reported from Wisconsin (Mackenzie, 1935) and Iowa (Hartley, 1962; McGregor et al., 1977), but not from Minnesota. In June, 1978, Prof. Thomas Morley and I collected the plant in a deciduous woodland bordering the Mississippi River near St. Paul in Ramsey County. Later the same year, Prof. Morley collected it on the edge of a deciduous forest near Wykoff in Fillmore County and also in a deciduous forest near Lonsdale in Rice County. During the 1979 season, several collections of this species were made along the wooded banks of the Minnesota River in Carver, Scott, Le Sueur, Nicollet, Brown, and Renville counties. One additional collection was made on a wooded slope at Whitewater State Park in Winona County.

Although reported from Wisconsin (Hartley, 1962; Zimmerman, 1976) and Iowa (Mackenzie, 1935), *Carex oligocarpa* Schkuhr has not been reported from Minnesota. This plant was first collected in the state in the same deciduous woodland in Ramsey County where *C. hitchcockiana* was originally found, but at a later date. No additional Minnesota stations were found for *C. oligocarpa* in 1978, but during the 1979 field season several new stations for the species were discovered along the wooded banks of the Minnesota River in Carver, Scott, Le Sueur, Sibley, Nicollet, and Renville counties. Also in 1979, the plant was collected on wooded slopes at two locations in both Winona and Houston counties.

In Minnesota, *Carex hitchcockiana* and *C. oligocarpa* often grow together. They have also been reported as frequent woodland associates elsewhere (Hermann, 1940). Both were considered calciphiles or near-calciphiles by Mackenzie (1935) and this is indeed the case in Minnesota. The preferred habitats for both species in the state are on steep, north- and east-facing wooded slopes overlooking deep stream valleys and in moist, wooded ravines. They have also been

found, though more rarely, in flat deciduous woodlands. In all cases, however, the soils involved were calcareous. Based on the presently known distributions for *C. hitchcockiana* and *C. oligocarpa*, the wooded bluffs along the Minnesota River provide the habitats for the northwesternmost stations for each of these species in the United States (Fernald, 1970; McGregor et al., 1977) and Canada (Scoggan, 1978).

Mackenzie (1935) reported *Carex bromoides* Schkuhr as occurring in Wisconsin, but not in Minnesota. In June, 1978, the species was discovered in a low, wet deciduous woods near Harris in Chisago County. Later the same year, the plant was found along the banks of the Kettle River near Askow in Pine County. During the 1979 field season, *C. bromoides* was found at several localities along the Kettle River in Pine and Carlton counties and in a low, wet deciduous woods in William O'Brien State Park in Washington County. In addition, in Pine County the plant has also been found along the banks of the Sand River near St. Croix State Park and in a floodplain woods of the St. Croix River on the Minnesota-Wisconsin border, 14 miles east of Cloverdale. Based on the presently known distribution of the species, the stations along the Kettle River in Pine and Carlton counties are the westernmost for it in the northern portion of the United States (Fernald, 1970) and in Canada (Scoggan, 1978). Specifically, the station on the Kettle River near the town of Kettle River in Carlton County represents the northwesternmost site for it in North America. It is interesting to note that although the species is presently unknown from Iowa, the plant ranges as far southwestward in the United States as Louisiana; also, one station is known from Hidalgo, Mexico (Hermann, 1974).

Mackenzie (1935) reported *Carex gynandra* Schwein. from Wisconsin, but not from Minnesota. Present-day manuals (Fernald, 1970; Gleason and Cronquist, 1963; Scoggan, 1978) treat this entity as a variety of *C. crinita*, i.e., *C. crinita* Lam. var. *gynandra* (Schwein.) Schwein. & Torr. They, too, do not include Minnesota within the range of the taxon. Although six specimens were on deposit at the University Herbarium prior to the beginning of this study of Minnesota *Carex* in 1974, all were labeled *C. crinita* (typical). Since 1974, the writer has collected both *C. crinita* var. *crinita* and *C. crinita* var. *gynandra* in Minnesota and has found that the two are well-marked and easily separated in the state. However,

whereas *C. crinita* var. *crinita* is quite widespread in distribution and frequent in occurrence in Minnesota, *C. crinita* var. *gynandra* appears to be confined to the northeastern counties (Lake, St. Louis, and Carlton), where it is infrequent to occasional along the banks of streams and in wet meadows.

Distribution maps show the distribution, by county, of each of the four above discussed *Carex* taxa in Minnesota, Wisconsin, and Iowa. The closed black circles are based on specimens on deposit at the University of Wisconsin, the University of Iowa, Iowa State University, and the University of Minnesota. The open circles represent records given by McGregor et al. (1977) which have not been verified by the writer.

ACKNOWLEDGEMENTS

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REPRESENTATIVE COLLECTIONS

CAREX HITCHCOCKIANA Dewey. **Brown Co.:** Rte. 10, 0.25 mi. W. of its jct. with Rte. 4, 8.5 mi. N. of Sleepy Eye, T111N, R32W, Sec. 7, 4133. **Carver Co.:** 6 mi. SW of East Union on Rte. 40, T114N, R24W, Sec. 30, 4406. **Fillmore Co.:** near Wykoff, T103N, R12W, Sec. 19, *Morley 1361*. **Le Sueur Co.:** 15.5 mi. W. of New Prague on Rte. 19, T112N, R25W, Sec. 6, 3669. **Nicollet Co.:** 6 mi. N. of St. Peter on Rte. 169, T111N, R26W, Sec. 16, 3768. **Ramsey Co.:** near St. Paul, South Mississippi River Drive, T28N, R23W, Sec. 17, 2600. **Renville Co.:** 0.25 mi. S. of Franklin, T112N, R34W, Sec. 11, 4061. **Rice Co.:** near Lonsdale, T111N, R22W, Sec. 12, *Morley 1400*. **Scott Co.:** 9.5 mi. W. of New Prague on Rte. 19, T113N, R25W, Sec. 36, 3540. **Winona Co.:** Whitewater State Park, 5.5 mi. N. of St. Charles on Rte. 74, T107N, R10W, Sec. 20, 3655.

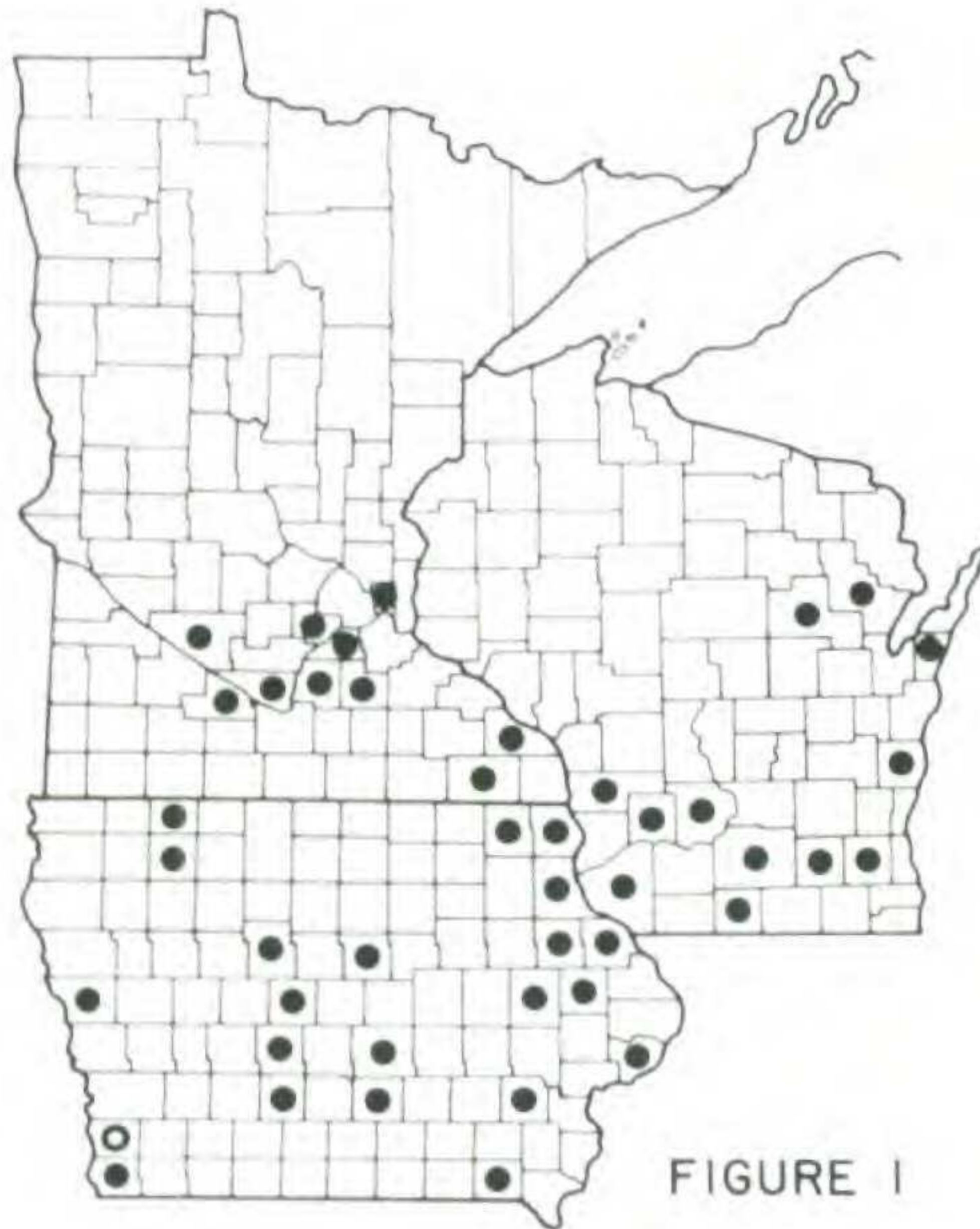


FIGURE 1

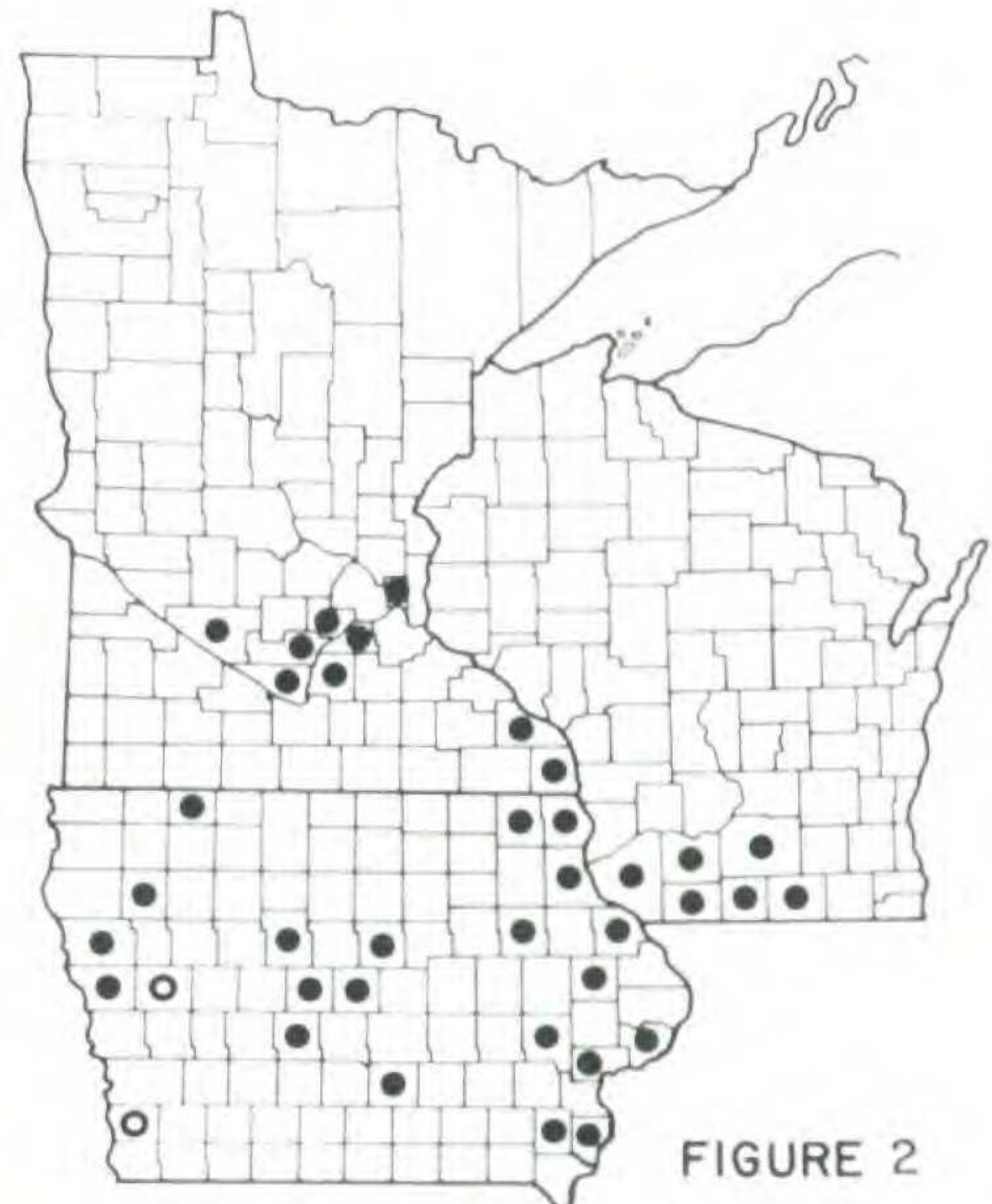


FIGURE 2



FIGURE 3

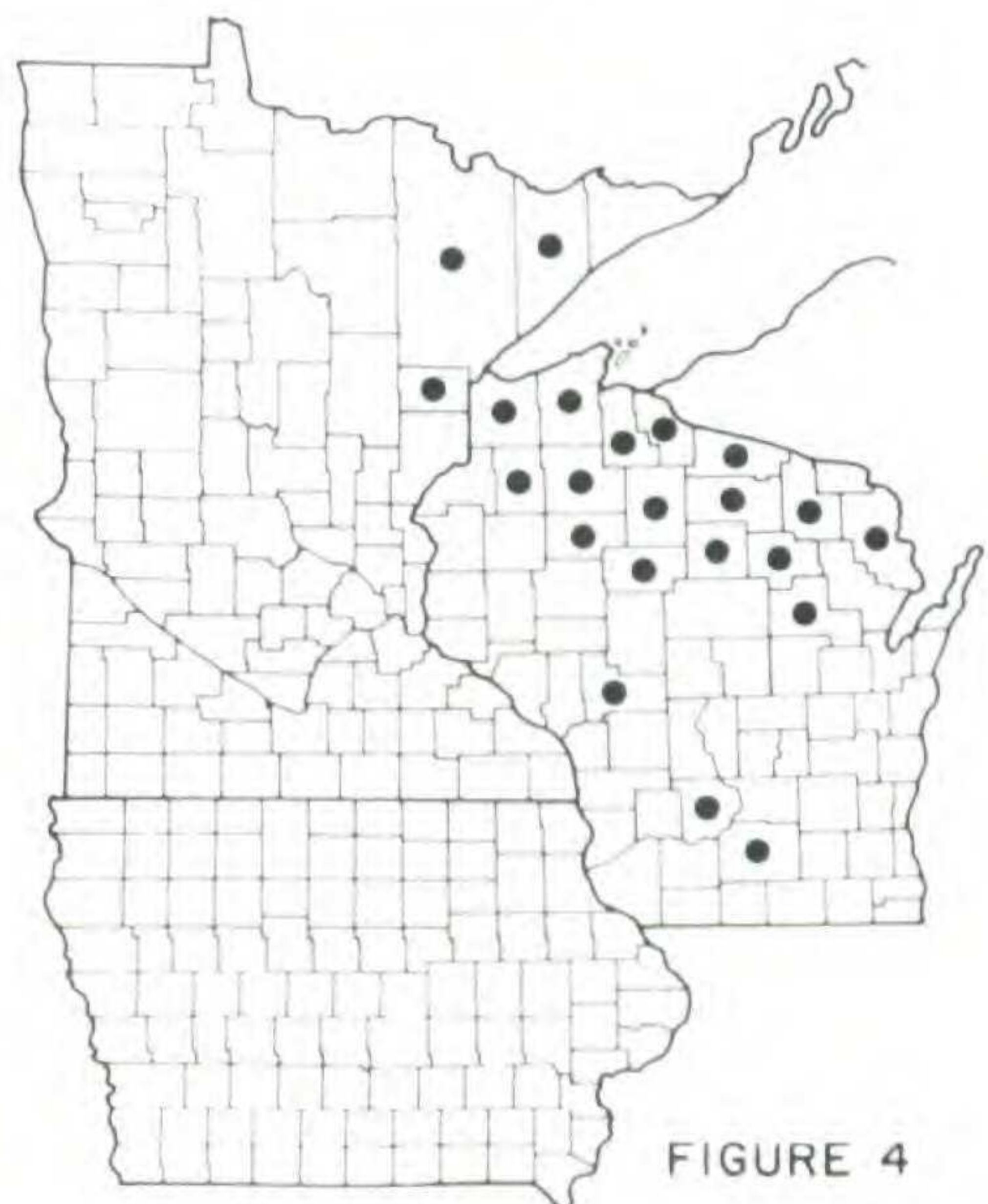


FIGURE 4

Carex distributions, by county, in Minnesota, Wisconsin, and Iowa. Figures 1-4. 1, *Carex hitchcockiana*; 2, *Carex oligocarpa*; 3, *Carex bromoides*; 4, *Carex crinita* var. *gynandra*.

CAREX OLIGOCARPA Schkuhr. **Carver Co.:** 6 mi. SW of East Union on Rte. 40, T114N, R24W, Sec. 30, 4410. **Houston Co.:** 9 mi. SW of Reno, T101N, R5W, Sec. 15, 4229. Beaver Creek Valley State Park, 4 mi. W. of Caledonia on Rte. 1, T102N, R6W, Sec. 5, 4237. **LeSueur Co.:** 15.5 mi. W. of New Prague on Rte. 19, T112N, R25W, Sec. 6, 3666. **Nicollet Co.:** 6 mi. N. of St. Peter on Rte. 169, T111N, R26W, Sec. 16, 3763. **Ramsey Co.:** near St. Paul, South Mississippi River Drive, T28N, R23W, Sec. 17, 2625. **Renville Co.:** 0.25 mi. S. of Franklin, T112N, R34W, Sec. 11, 4060. **Scott Co.:** 6.5 mi. SW of Belle Plaine, T113N, R25W, Sec. 31, 3797. **Sibley Co.:** 0.5 mi. W. of Henderson on Rte. 19, T112N, R26W, Sec. 11, 3704. **Winona Co.:** just W. of Troy, near the jct. of Rte. 74 and Rte. 6, T105N, R10W, Sec. 30, 3533. Whitewater State Park, 5.5 mi. N. of St. Charles on Rte. 74, T107N, R10W, Sec. 20, 3647.

CAREX BROMOIDES Schkuhr. **Carlton Co.:** 5.5 mi. W. of Moose Lake, where Rte. 27 crosses the Kettle River, T46N, R20W, Sec. 21, 3909. 1.5 mi. NW of Kettle River, where Rte. 73 crosses the Kettle River, T46N, R20W, Sec. 5, 3916. **Chisago Co.:** Goose Creek, 3 mi. NE of Harris, T36N, R21W, Sec. 13, *Clements 1183*. **Pine Co.:** 2.5 mi. W. of Askow, where Rte. 23 crosses the Kettle River, T43N, R20W, Sec. 26, 2596. 4.5 mi. E. of Hinckley, where Rte. 48 crosses the Kettle River, T41N, R21W, Sec. 23, 3711. Rutledge, where Rte. 33 crosses the Kettle River, T44N, R20W, Sec. 34, 3893. 1.5 mi. E. of Cloverdale, where Rte. 48 crosses the Sand River, T41N, R19W, Sec. 26, 3922. 14 mi. E. of Cloverdale, where Rte. 48 crosses the St. Croix River, T41N, R17W, Sec. 24, 3951. 0.5 mi. E. of Sandstone, where Rte. 123 crosses the Kettle River, T42N, R20W, Sec. 10, 4550. **Washington Co.:** William O'Brien State Park, just N. of Marine on St. Croix on Rte. 95, T32N, R19W, Sec. 31, 4000.

CAREX CRINITA Lam. var. GYNANDRA (Schwein.) Schwein. & Torr. **Carlton Co.:** 1 mi. NW of Holyoke and 1.5 mi. E. of Rte. 23, bank of the Net River, T46N, R16W, Sec. 17, 2548. **Lake Co.:** 0.25 mi. S. of Silver Bay on Rte. 61, *c-67*. Encampment River, Rte. 61, *Lakela 4069*. **St. Louis Co.:** Front Lake, Kabetogama Peninsula, *Moyle 2606*. French River District, Smith Road, *Lakela 11262*.

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